

C L A I M S

1. Process for the production of a panel with a protected acoustic damping layer, comprising at least a porous core (11) covered, on the one hand, with a porous acoustic damping layer (10) and, on the other side, with a total acoustic reflector (12), in which at least said porous layer (10) is emplaced by striping or draping, said porous layer (10) being constituted of parallel strips, characterized in that the edges (15) of the strips (13) of the porous layer (10) are disposed facing a strip (16, 17) laid down by striping or draping and containing a thermoplastic, thermohardening or thermofusible material adapted, by later heating, to ensure the securement of the edges of said strips (13) with the adjacent strip (16, 18).

2. Process according to claim 1, more particularly adapted for the production of a single piece panel, without a joint, of generally annular shape, characterized in that said porous layer (10) and said strip (16, 18) containing a thermoplastic, thermosetting or thermofusible material, are striped or draped on a mold having the shape of the panel to be obtained, the porous structure (10) and the total reflector (12) being then emplaced also by striping or draping.

3. Process according to claim 1 or 2, characterized in that said strip containing a thermoplastic, thermosetting or thermofusible material is constituted by filaments (16, 16', 16'') pre-impregnated with a thermosetting or thermoplastic resin, said strip constituting a structural layer associated with the porous acoustic layer (10).

4. Process according to claim 3, characterized in that the strips (13) of the porous layer (10) are deposited in a non-touching manner and the filaments (16, 16', 16'') are deposited covering the intervals between said strips (13).

5. Process according to claim 3 or 4, characterized in that said filaments (16) are striped on the porous layer (10), so as to be sandwiched between this latter and the porous core (11) subsequently deposited particularly by striping a honeycomb structure in the form of a strip.

6. Process according to claim 5, characterized in that the windings of the filaments (16) are separated from each other and only facing and overlapping the intervals (14) between the strips (13) of the porous layer (10).

7. Process according to claim 3 or 4, characterized in that said filaments (16, 16', 16'') are first striped on the mold so as to be located at least facing and overlapping intervals (14) between the strips (13) of the porous layer (10) which is subsequently striped.

8. Process according to claim 3 or 4, characterized in that said filaments (16) are disposed on opposite sides of the porous layer (10) so as to cover at least the intervals (14) between the strips (13) of said porous layer.

9. Process according to any one of claims 3 to 8, characterized in that the filaments (16, 16', 16'') are in the form of an assembly of square, round or rectangular cross-section comprised of filaments, strips of filaments, meshes, strands or braids of filaments, particularly of carbon, of glass or of "Kevlar".

10. Process according to claim 1 or 2, characterized in that said strip containing a thermoplastic, thermosetting or thermofusible material is a strip of perforated metal sheet (18).

11. Process according to claim 10, characterized in that the perforated metal sheet (18) is selected from the group comprising metallic sheets and sheets of composite material constituted of a cloth of fibers pre-impregnated with a thermosetting or thermoplastic resin.

12. Process according to claim 11, characterized in that the perforated metal sheet (18) is coated with a thermofusible glue.

13. Process according to claim 11 or 12, characterized in that the strips of perforated metal sheet (18) have a width equal to or less than that of the strips (13) of the porous layer (10) and are disposed first on the mold with an interval (19) between two successive strips, then the porous layer (10) is deposited in strips (13) disposed facing said intervals (19) between strips of metal sheet (18).

14. Process according to claim 11 or 12, characterized in that the strips of perforated metal sheet (18) have a width substantially greater than that of the strips (13) of the porous layer (10) and are first

deposited on the mold with a slight partial overlap between strips, then the porous layer (10) is deposited so as particularly to align each porous strip (13) with a sheet metal strip (18), the windings of the porous layer (10) not touching each other.

15. Process according to claim 11 or 12, characterized in that the strips of perforated metal sheet (18) have a width less than that of the strips (13) of the porous layer (10) which is first deposited on the mold, such that the windings overlap slightly, then the strips of metal sheet (18) are placed facing or not the regions of overlap of the strips (13) of the porous layer (10), these strips (13) not touching each other.

16. Process according to claim 1 or 2, characterized in that said strip containing a thermoplastic, thermosetting or thermofusible material is constituted by the porous layer (10) itself which is formed of a cloth (13') of filaments pre-impregnated with a thermosetting or thermoplastic resin, said cloth (13') being deposited so as to form strips or windings with a slight mutual overlap.

17. Process according to claim 1, characterized in that there is striped or draped on a mold the total reflector (12), then the core with a porous structure (11), then, after baking in an autoclave and withdrawal from the mold, the core with a porous structure (11) is striped or draped with the porous layer (10) and with filaments (16, 16', 16'') pre-impregnated with a thermosetting or thermoplastic resin constituting said strip adapted to ensure the securement of the edges of the strips of the porous layer (10).

18. Process according to one of claims 3 to 9, characterized in that, to increase the structural strength of the panel, there is deposited, by striping or winding, supplemental filaments (16, 16', 16'') forming an angle greater than zero with the other filaments (16, 16', 16'') and disposed on opposite sides or on either side of the porous layer 10.

19. Acoustic damping panel obtained according to the process according to any one of claims 1 to 18.